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EXAMINER	
NORTON, JENNIFER L	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/823,465	RED ET AL.
	Examiner	Art Unit
	Jennifer L. Norton	2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-12,14-23 and 25-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,4-12,14-23 and 25-31* is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/16/07*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. The following is a **Final Office Action** in response to the Amendment received on 16 April 2007. Claims 1, 2, 4, 6, 9, 11, 12, 14, 16, 20-23, 27, 30 and 31 been amended. Claims 3, 13 and 24 have been previously cancelled. Claims 1, 2, 4-12, 14-23 and 25-31 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 4-12, 14-23 and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No.: 6,499,054 (hereinafter Hesslink) in view of U.S. Patent No.: 6,028,412 (hereinafter Shine).

4. As per claim 1, Hesslink teaches to a method for controlling electronic devices through a host device, the method comprising:

establishing real-time (col. 2, lines 10-12 and col. 9, lines 60-64) electronic communications over a network (col. 3, lines 37-38, 41-43 and 67, col. 4, lines 1-10 and Fig. 1A, element 62, i.e. "GPIB, RS-232, PCI, USB, Ethernet, etc." and Fig. 1A,

element "the cable connection between element 62 and 60") between the host device (Fig. 1A, element 60) and one or more controlled devices (col. 3 lines 37-38 and 41-43, col. 4, lines 16-18 and Fig. 1A, element 64);

executing control software (Fig. 1, element 112) in the host device (col. 4, lines 2-10 and 53-55) to generate control input parameters for the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38); and

sending the control input parameters to the controlled device (abstract, lines 1-4, col. 3, lines 24-26 and 37-38 and col. 4, lines 18-21).

Hesslink does not expressly teach to frequency-based electronic communications, wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency, assigning each controlled device the control frequency specific to that controlled device and sending the control input parameters to the controlled device at the assigned control frequency.

Shine teaches to frequency-based (col. 1, lines 62-65 and col. 2, lines 12-26), real-time electronic communications (col. 7, lines 8-13), wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency (col. 3, lines 18-25), assigning each controlled device the control frequency specific to that controlled device (col. 1, lines 62-65 and col. 2, lines

12-26) and sending the control input parameters to the controlled device at the assigned control frequency (col. 3, lines 21-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include frequency-based, real-time electronic communications, wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency, assigning each controlled device the control frequency specific to that controlled device and sending the control input parameters to the controlled device at the assigned control frequency to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

5. As per claim 2, Hesslink teaches as set forth above receiving at the host device, output parameters from the controlled devices in response to the control input parameters (col. 3, line 67 and col. 4, lines 1-14).

6. As per claim 4, Hesslink teaches to establishing real-time electronic communications (col. 2, lines 10-12) with a plurality of controlled devices (Fig. 1A elements 64 and 70).

Hesslink does not expressly teach the control frequency is assigned using a 2^n time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned ha a value of 2^N, and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

Shine teaches the control frequency is assigned using a 2^n time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned ha a value of 2^N (col. 1, lines 62-65 and col. 2, lines 12-26), and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include the control frequency is assigned using a 2^n time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned ha a value of 2^N, and

assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

7. As per claim 5, Hesslink does not expressly teach N is independently determined for each controlled device of the plurality of the controlled devices.

Shine teaches N is independently determined for each controlled device of the plurality of the controlled devices (col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include N is independently determined for each controlled device of the plurality of the controlled devices to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22) in addition to being implemented very

cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

8. As per claim 6, Hesslink does not expressly teach the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of each controlled device.

Shine teaches to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of each controlled device (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of each controlled device to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in

addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

9. As per claim 7, Hesslink teaches as set forth above initiating a control loop process on the host device when electronic communication is established with a controlled devices (col. 3, line 67, col. 4, lines 1-14 and Fig. 1B, elements 100, 110, 112 and 120).

10. As per claim 8, Hesslink teaches as set forth above accessing the host device from a remote computing device (Fig. 1B, element 118) via the Internet (col. 3, lines 6-8 and Fig. 1B, element 50).

11. As per claim 9, Hesslink teaches as set forth above providing information relating to the controlled devices to a user at the remote computing device (col. 4, lines 11-14 and Fig. 1B, element 118).

12. As per claim 10, Hesslink teaches as set forth above receiving user input at the host device from the user at the remote computing device, wherein the input relates to the controlled device (col. 4, lines 16-18 and Fig. 1B, element 114).

13. As per claim 11, Hesslink teaches to a computing device configured for controlling electronic devices, the computing device comprising:

a processor (col. 3, lines 8-12);

memory in electronic communication with the processor (col. 3, lines 8-11); and

executable instructions executable by the processor (col. 3, lines 25-27), wherein the executable instructions are configured to implement a method comprising:

establishing real-time (col. 2, lines 10-12 and col. 9, lines 60-64) electronic communications over a network (col. 3, lines 37-38, 41-43 and 67, col. 4, lines 1-10 and Fig. 1A, element 62, i.e. "GPIB, RS-232, PCI, USB, Ethernet, etc." and Fig. 1A, element "the cable connection between element 62 and 60") between the host device (Fig. 1A, element 60) and each controlled device (col. 3, lines 37-38 and 41-43, col. 4, lines 16-18 and Fig. 1A, element 64);

executing control software in the host device to generate control input parameters for the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38); and

sending the control input parameters to the controlled devices (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38).

Hesslink does not expressly teach frequency-based electronic communications, wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency, assigning each controlled device the

control frequency specific to that controlled and sending the control input to the controlled device at the assigned control frequency.

Shine teaches to frequency-based (col. 1, lines 62-65 and col. 2, lines 12-26), real-time electronic communications (col. 7, lines 8-13), wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency (col. 3, lines 18-25), assigning each controlled device the control frequency specific to that controlled (col. 1, lines 62-65 and col. 2, lines 12-26) and sending the control input to the controlled device at the assigned control frequency (col. 3, lines 20-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include frequency-based electronic communications, wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency, assigning each controlled device the control frequency specific to that controlled and sending the control input to the controlled device at the assigned control frequency to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine:

col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

14. As per claim 12, Hesslink teaches as set forth above the method further comprises receiving, at the computing device, output parameters from the controlled device in response to the control input parameters (col. 3, line 67 and col. 4, lines 1-14).

15. As per claim 14, Hesslink teaches as set forth above the method further comprises establishing real-time (col. 2, lines 10-12) electronic communications with a plurality of controlled devices (Fig. 1A, elements 64 and 70).

Hesslink does not expressly teach the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^N, and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

Shine teaches to the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^N (col. 1, lines 62-65 and col. 2, lines 12-26), and assigning

a discrete control frequency for a controlled device using the 2^N time slicing algorithm, where N is a non-negative integer (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^N, and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

16. As per claim 15, Hesslink does not expressly teach N is independently determined for each controlled device of the plurality of controlled devices.

Shine teaches N is independently determined for each controlled device of the plurality of controlled devices (col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include N is independently determined for each controlled device of the plurality of the controlled devices to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

17. As per claim 16, Hesslink does not expressly teach the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device.

Shine teaches to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to modify the teaching of Hesslink to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

18. As per claim 17, Hesslink teaches as set forth above initiating a control loop process on the computing device when electronic communication is established with a controlled device (col. 3, line 67, col. 4, lines 1-14, Fig. 1B and elements 100, 110, 112 and 120).

19. As per claim 18, Hesslink does not expressly teach initiating a torque/current control loop process at a microcontroller on the controlled device when the controlled device comprises a motor.

Shine teaches to initiating a torque/current control loop process at a microcontroller on the controlled device when the controlled device comprises a motor (col. 3, lines 18-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include initiating a torque/current control loop process at a microcontroller on the controlled device when the controlled device comprises a motor because the method is well suited to governing motor speeds and in particular for controlling stepper motors, including full step, half step and micro-steppers. Similarly, the speed of a DC motor can be regulated with this method by providing the controlling frequency that governs the rotational speed of the armature (Shine: col. 3, lines 35-41). In addition the method can be implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

20. As per claim 19, Hesslink teaches as set forth above accessing the computing device from a remote computing device (Fig.1B, element 118) via the Internet (col. 3, lines 6-8 and Fig. 1B, element 50).

21. As per claim 20, Hesslink teaches as set forth above providing information relating to the controlled devices to a user at the remote computing device (col. 4, lines 11-14 and Fig. 1B, element 118).

22. As per claim 21, Hesslink teaches as set forth above the method further comprises receiving user input at the computing device from the user at the remote computing device, wherein the input relates to the controlled devices (col. 4, lines 16-18 and Fig. 1B, element 114).

23. As per claim 22, Hesslink teaches to a computer-readable medium for storing program data, wherein the program data comprises executable instructions for implementing a method in a computing device for controlling electronic devices, the method comprising:

establishing real-time (col. 2, lines 10-12 and col. 9, lines 60-64) electronic communications over an network (col. 3, lines 37-38, 41-43 and 67, col. 4, lines 1-10 and Fig. 1A, element 62, i.e. "GPIB, RS-232, PCI, USB, Ethernet, etc." and Fig. 1A, element "the cable connection between element 62 and 60") between the computing device (Fig. 1A, element 60) and one or more controlled devices (col. 3, lines 37-38 and 41-43, col. 4, lines 16-18 and Fig. 1A, element 64);

executing control software in the host device to generate control input parameters for the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38); and

sending the control input parameters to the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38).

Hesslink does not expressly teach frequency-based electronic communication, wherein electronic communication between the computing device and each controlled device always occurs at an assigned control frequency, assigning each controlled device the control frequency specific to that controlled device and sending the control input to the controlled device at the assigned control frequency.

Shine teaches to frequency-based (col. 1, lines 62-65 and col. 2, lines 12-26), real-time electronic communication (col. 7, lines 8-13), wherein electronic communication between the computing device and each controlled device always occurs at an assigned control frequency (col. 3, lines 18-25), assigning each controlled device the control frequency specific to that controlled device (col. 1, lines 62-65 and col. 2, lines 12-26) and sending the control input to the controlled device at the assigned control frequency (col. 3, lines 21-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include frequency-based electronic communication, wherein electronic communication between the computing device and each controlled device always occurs at an assigned control frequency, assigning each controlled device the control frequency specific to that controlled device and sending the control input to the controlled device at the assigned control frequency to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

24. As per claim 23, Hesslink teaches as set forth above the method further comprises receiving, at the computing device, output parameters from the controlled device in response to the control input parameters (col. 3, line 67 and col. 4, lines 1-14).

25. As per claim 25, Hesslink teaches as set forth above to establishing real-time (col. 2, lines 10-12) electronic communications with a plurality of controlled devices (Fig. 1A, elements 64 and 70).

Hesslink does not expressly teach to the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a vale of 2^N, and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

Shine teaches to the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a vale of 2^N (col. 1, lines 62-65 and col. 2, lines 12-26), and assigning a discrete control frequency for a controlled device using the 2^N time slicing algorithm, where N is a non-negative integer (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a vale of 2^N, and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-

22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

26. As per claim 26, Hesslink does not expressly teach N is independently determined for each controlled device of the plurality of controlled devices.

Shine teaches N is independently determined for each controlled device of the plurality of the controlled devices (col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include N is independently determined for each controlled device of the plurality of the controlled devices to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

27. As per claim 27, Hesslink does not expressly teach the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative

integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device.

Shine teaches to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

28. As per claim 28, Hesslink teaches as set forth above the method further comprises initiating a control loop process on the computing device when electronic

communication is established with a controlled device (col. 3, line 67, col. 4, lines 1-14 and Fig. 1B, elements 100, 110, 112 and 120).

29. As per claim 29, Hesslink teaches as set forth above accessing the computing device from a remote computing device (Fig. 1B, element 118) via the Internet (col. 3, lines 6-8 and Fig. 1B, element 50).

30. As per claim 30, Hesslink teaches as set forth above providing information relating to the controlled devices to a user at the remote computing device (col. 4, lines 11-14 and Fig. 1B, element 118).

31. As per claim 31, Hesslink teaches as set forth above receiving user input at the computing device from the user at the remote computing device, wherein the input relates to the controlled devices (col. 4, lines 16-18 and Fig. 1B, element 114).

Response to Arguments

32. Applicant's arguments see Remarks pgs. 9-12, filed 16 April 2007 with respect to claims 1, 4, 4-12, 14-23 and 25-31 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive.

33. Applicant argues that the prior art fails to teach, "executing control software in the host device to generate control input parameters for the controlled device"; the examiner respectfully disagrees.

Hesslink discloses (abstract, lines 1-4) "A method and system for enabling multiple users from different physical locations to access, observe, control and manipulate physical processes and devices over a computer network such as the Internet is disclosed."

(col. 3, lines 24-26) "An operating system and browser program may also be included in computers 10, 60 so that a user may access the laboratory. However, other media may also be used, such as a direct connection or high speed data line."

(col. 3, lines 37-38) "An interface 62 is connected to the processor in computer 60 that allows a user to control laser 64."

(col. 4, lines 2-10) "As used herein, physical processes 110 are defined as physical, biological and/or chemical processes or phenomena that can be detected, measured, quantified and/or controlled by electronic devices such as detectors, sensors, motors, power source, etc. to various interfaces such as GPIB, RS-232, PCI, USB,

ethernet, etc., the electronic devices that monitor and control the physical processes 110 and communicate with computer 60 that runs the lab server process 112."

(col. 4, lines 16-18) "The lab server 112 also receives data from the clients 118 such as control commands through the connection server 114. After analyzing these commands, the lab server 112 then passes the commands to the electronic devices or equipment (i.e. laser, motors, detectors, etc.)".

(col. 4, lines 53-55) "The lab server 112 can be implemented as a multi-threaded software that implements communication functions across computer networks such as the internet 116."

Hence, Hesslink teaches the claimed limitation, "executing control software (Fig. 1A, element 112; i.e. "a multi-threaded software") in the host device (Fig. 1, element 60; i.e. "computer 60 that runs the lab server process 112") to generate control input parameters for the controlled device (client server 118 sends commands to lab server 112, which then passes the commands to the electronic devices or equipment)".

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to a system for transmitting data from one computing device to other devices.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

U.S. Patent No. 7,174,228 discloses a display for on-site visualization of conditions of an automated process.

U.S. Patent No. 7,200,448 discloses methods and systems for automatically generating an execution order for a control system function block diagram.

U.S. Patent No. 7,219,041 a measuring and simulation system for a machine-tool or production machine.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Norton whose telephone number is 571-272-3694. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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